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AUTHOR Slavin, Robert E.
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INSTITUTION Johns Hopkins Univ., Baltimore, Md. Center for Social Organization of Schools.
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ABSTRACT

Three Student Team Learning techniques have been extensively researched and found to significantly increase student learning. In Student Teams Achievement Divisions (STAD), teams are made up of high, average, and low performing students of both genders and different racial and ethnic backgrounds. Team members study worksheets, work problems in pairs, take turns quizzing each other, or discuss problems as a group, using any means they wish to master the material. Teams-Games-Tournaments (TGT) uses teams and format similar to STAD; however, students play academic games to show their individual mastery of the subject matter in weekly tournaments. In Jigsaw, academic material is broken down into sections, teams of two master the sections and in turn instruct other team-mates in their areas of "expertise." A case study is presented of a student experiencing the three Student Team Learning techniques. Research evidence is presented on the effectiveness of Student Team Learning in academic achievement and its usefulness in integrating biracial and mainstreamed classrooms. (JD)

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STUDENT TEAM LEARNING

Robert E. Slavin
Center for Social Organization of Schools
The Johns Hopkins University

Do you remember being on a softball team, up at bat, with your teammates behind you shouting, "Hit it a mile!"? You knew you would do your best because your peers, the people who meant the most to you besides your family, depended on you. The thrill of coming through for the team, of being the "star" even for a day, is one that few people forget. Being on a team, working for a cooperative goal, can be one of the most exciting experiences in life.

Can this kind of peer support for achievement, the easy acceptance of teammates, and the excitement of teamwork be transferred to the classroom? Such authors as James Coleman in The Adolescent Society (1961) and Urie Bronfenbrenner in Two Worlds of Childhood (1970) have suggested that teams could work in the classroom, and a long tradition of research in social psychology has shown that people working for a cooperative goal come to encourage one another to do their best, to help each other do well, and to like and respect one another (Slavin, 1977a). What remains is an engineering task: How can team learning be made practical and effective in the classroom?

This question touched off ten years of research and development in classrooms, carried out primarily by four independent groups of researchers: Elliot Aronson, now at the University of California at Santa Cruz; David and Roger Johnson, at the University of Minnesota; Shlomo Sharan and Rachel Hertz-Lazarowitz at the University of Tel-Aviv, Israel; and David DeVries, Keith Edwards, and Robert Slavin, at The Johns Hopkins University.

The result of this research and development may be one answer to a major contemporary dilemma of schools: techniques that achieve both

humanistic educational goals and basic skills learning goals instead of achieving one at the expense of the other.

When we place students on learning teams, each student knows that a group of peers supports his or her academic efforts. This is true because for a team to be successful, all the team members must do their best. Think back to the softball game. If you got that hit, your teammates went wild with approval; if you didn't, they consoled you and began encouraging the next batter. Can you remember anything like that happening in class? If you can, it was probably in a team spelling bee or other team activity in which your academic efforts could help a group to be successful.

Team Techniques

Educational research has demonstrated that heterogeneous teams made up of high and low achievers, boys and girls, blacks, whites, and Hispanics, can be successfully transplanted from the playing field to the classroom. Three Student Team Learning techniques have now been extensively researched and found to significantly increase student learning. These are Student Teams-Achievement Divisions, Teams-Games-Tournaments, and Jigsaw.

Student Teams-Achievement Divisions (STAD). Student Teams-Achievement Divisions was developed by Robert Slavin at Johns Hopkins University. It is the simplest of the Student Team Learning methods, and was originally designed as a simplification of Teams-Games-Tournaments (see below).

In STAD, students are assigned to four- or five-member learning teams. The teams are made up of high, average, and low performing students, boys and girls, and students of different racial or ethnic backgrounds, so that each team is like a microcosm of the entire class. Each week,

the teacher introduces new material in a lecture or discussion. The team members then study worksheets on the material. They may work problems one at a time in pairs, or take turns quizzing each other, or discuss problems as a group, or use whatever means they wish to master the material. The students are given worksheet answer sheets, so it is clear to them that their task is to learn the concepts, not to simply fill out the worksheets. Team members are told that they are not finished studying until they and their teammates are sure that they understand the material.

Following team practice, students take quizzes on the material they have been studying. Teammates may not help one another on the quizzes; at this point they are on their own. The quizzes are scored in class or soon after class. These scores are formed into team scores by the teacher.

The amount each student contributes to his or her team is determined by the amount the student's quiz score exceeds the student's own past quiz average. This improvement score system gives every student a good chance to contribute maximum points to the team if (and only if) the student does his or her best, and shows substantial improvement or gets a perfect paper. This system has been shown to increase student academic performance even without teams (see Slavin, 1980a), but it is especially important as a component of Student Team Learning. Think back to the baseball game; the one problem in baseball is the "automatic strikeout," the team member who cannot hit the ball no matter how much he or she practices. In Student Team Learning, no one is an automatic strikeout, and by the same token no one is guaranteed success, because it is improvement that counts.

The teams with the highest scores are recognized in a weekly one-page

class newsletter. The students who exceeded their own past records by the largest amounts or who got perfect papers are also recognized in the newsletter.

STAD is not difficult to use. Following the steps outlined in this manual, a teacher need only assign his or her students to teams, allow students to study together, give a regular quiz, and do thirty to forty minutes of team scoring at the end of the week. However, the change in the classroom is dramatic. All of the sudden, students begin helping each other to learn basic skills instead of making fun of students who always know the answer. They begin to see the teacher as a resource who has valuable information that they need to accomplish something important, more like a coach than a boss. They begin to see learning activities as social instead of isolated, as fun instead of boring, as under their own control instead of under the teacher's thumb. Students begin to have feelings of comraderie with their classmates that are common on the athletic field but not in the classroom. In the integrated classroom, this new sense of comraderie extends across racial or ethnic barriers to create new friendships that would be less likely to exist in the traditional classroom. In the mainstreamed classroom, this comraderie extends across an even larger barrier, that between physically or mentally handicapped students and their classmates, to create a climate of acceptance instead of scapegoating. Researchers have documented all of these effects of Student Team Learning and many others (see below); what is so striking about these outcomes is that they all stem from the same simple change in classroom procedure.

Teams-Games-Tournaments. Teams-Games-Tournaments (TGT) uses the same teams, instructional format, and worksheets as STAD. However, in

TGT, students play academic games to show their individual mastery of the subject matter. These games are played in weekly tournaments. Students compete in the tournaments with members of other teams who are comparable in past performance. The competitions take place in tournament tables of three students. Thus, a high performing student from the "Fantastic Four" might compete with a high performer from the "Pirates" and one from the "Superstars." Another table might have average performing students from the "Pirates," the "Masterminds," and the "Chiefs," and another could have low performers from the "Superstars," "Tigers," and "Masterminds." Of course, the students are not told which is the highest table, which is next, and so on, but they are told that their competition will always be fair. While teams stay together for about six weeks, the tournament table assignments are changed every week according to a system that maintains the equality of the competition. This equal competition makes it possible for students of all levels of past performance to contribute maximum points to their teams if they do their best, in the same way as the improvement score system in STAD makes it possible for everyone to be successful.

After the tournament, team scores are figured, and a newsletter recognizes the highest scoring teams and tournament table winners. Thus, TGT uses the same pattern of teaching, team worksheet study, individual assessment, equal opportunities for success, and team recognition as that used in STAD, but its use of academic games instead of quizzes makes TGT even more exciting and motivating than STAD. In fact, TGT generates so much excitement that getting students to stop can be a problem. For example, in one study in a Baltimore junior high school that is attended by a substantial number of students who ride busses from

the inner city, every student in two classes stayed after school (and missed the busses) to attend a tie-breaker playoff in a TGT tournament. Teachers using TGT have reported that students who were never particularly interested in school were coming in after class to get materials to take home to study, asking for special help, and becoming active in class discussions.

Jigsaw. While STAD and TGT were developed at Johns Hopkins University, Jigsaw was originally designed by Elliott Aronson and his colleagues at the University of Texas and then at the University of California at Santa Cruz. In Aronson's Jigsaw method, students are assigned to six-member teams. Academic material is broken down into five sections. For example, a biography might be broken into early life, first accomplishments, major setbacks, and later life. Each team member reads his or her own unique section, except for two students who share a section. Then, members of different teams who have studied the same sections meet in "expert groups" to discuss their sections. Then the students return to their teams and take turns teaching their teammates about their sections. Since the only way students can learn the sections other than their own is to listen carefully to their teammates, they are motivated to support and show interest in each others' work.

A modification of Jigsaw developed by Slavin at Johns Hopkins University is emphasized in this manual. In this method, called Jigsaw II, students work in four to five-member teams as in TGT and STAD. Instead of each student having a unique section, all students read a common narrative, such as a brook chapter, a short story, or a biography. However, each student is given a topic on which to become an expert. The students who had the same topics meet in expert groups to discuss them, and then

return to their teams to teach what they have learned to their teammates. Then, students take individual quizzes, which are formed into team scores using the improvement score system of STAD, and the highest scoring teams and individuals are recognized in a class newsletter.

For more information on Aronson's original Jigsaw method; see Aronson (1978).

A Day in the Life of Jim James

To illustrate what goes on in Student Team Learning classes, let's follow a hypothetical student through a day as he experiences three basic techniques--Jigsaw II, TGT, and STAD. We have chosen to follow a junior high school student, but the basic experience would be the same for an elementary or high school student.

Jim James is an average seventh grader; active, inquisitive, and irreverent. He attends Hooperville Junior High. Jim's first class is social studies, where his teacher, Mr. Thomas, is using Jigsaw II to teach a unit on Alexander Hamilton. Yesterday, Mr. Thomas handed out expert sheets and social studies books. The expert sheet contained four topics related to a biography of Alexander Hamilton. Mr. Thomas assigned him topic number 4, which is "What were Hamilton's political beliefs?" Everyone read the biography of Hamilton during the last period.

Today, Mr. Thomas asks the class to be quiet. "Now," he says, "you may all get into your expert groups. Each team member who has Hamilton's early life may sit over here." Mr. Thomas points out places for each expert group to meet, and the students with the same topics get together. Cynthia, from one of the other teams, starts the discussion: "The main thing I got from the chapter is that Himilton was always disagreeing with Jefferson and Aaron Burr." Jim says, "Yes, but that's not the main

point. I think we should concentrate on whether Hamilton was really a royalist or not." The group members talk for about twenty minutes, sharing their ideas about what they have read and what are the important things about it. At the end of that time, Mr. Thomas asks everyone to return to their teams.

Jim sits with his teammates. Soo Mi, a Korean student who studied about Hamilton's early life, begins to teach her section first. She has problems because of her poor English, but her teammates encourage her to keep going because they need to understand what she had to say. She tells how Hamilton was born in Nevis, in the Caribbean. Sam asks where the Caribbean is, and Yolanda tells him. Then Soo Mi continues to explain how Hamilton came to America, his first job, his role in the American Revolution, and other details. Sam tells how Hamilton was involved in the ratification of the Constitution. Next, Yolanda tells the group about the Federalist Papers, and other writings by Hamilton. Finally, it 's Jim's turn, and he describes Hamilton's political positions. During this time, Mr. Thomas is moving from team to team, answering questions, clearing up disagreements, and focusing individual students on important points. Finally, Mr. Thomas has the students put away their books, and he hands out a quiz on the life of Alexander Hamilton. Jim does well on everything except one of the questions about Hamilton and the ratification of the Constitution, and reminds himself to ask Tyrone more questions the next time they do a Jigsaw unit. The bell rings, and Jim is off to his next class, English.

Jim's English class is using STAD, and today is worksheet day. Yesterday, Mrs. Cooper introduced the idea of commas in a series to the whole class. Today the teams will study worksheets about the use of commas to prepare for tomorrow's quiz.

Jim's team is called "Cooper's Raiders." As the class begins, the Raiders assemble around a table to study their worksheets. Jim pairs off with Alex and quizzes him on the material. The first item is "My dog buried a bone a boot and an apple in the back yard." Alex says, "That's easy. The commas go after 'bone' and 'apple.'" Jim disagrees, and they check the answer sheet. Sure enough, Jim is right. He explains to Alex that commas go after each item in a series except the last item. Alex complains that last year he had been taught that a comma isn't needed after the item in a series that comes before the "and." Jim and Alex call Mrs. Cooper over to explain, and she agrees with Jim that commas go after all items in a series except the last, but also tells Alex that many people do disagree with this rule. She thanks the students for doing such a good job helping each other.

After Jim has quizzed Alex on most of the items, Alex quizzes Jim. When both students feel confident about their abilities to put commas in a series, they check to see how their other teammates, Cynthia and Diane, are doing. Everyone on the Raiders wants to get a good score on the quiz. The Raiders finished last in the first week's team competition, fourth in last week's, and now they hope to break into the top three, to have their team especially mentioned in the class newsletter. By the end of the period, all four teammates feel confident and are looking forward to the quiz the next day.

After gym and lunch, Jim goes to math class. This class is using TGT, and today is tournament day--the high point of the week. Jim's team, the "Euclid Kids," has been studying their geometry hard all week because the team members want to keep their first-place position in the TGT competition. In fact, Jim and one of his teammates stayed after

school yesterday to ask for material to study at home! Because his grades in math had always been poor, Jim had started the TGT competition at one of the lower tables, competing with others who had had poor grades in math. However, Jim had been the highest scorer in his tournaments and had gradually moved to one of the higher tables. His competition is stiffer than ever.

As the student arrive, Mr. Cartwright assigns them to their tournament tables, where they will compete to add points to their team scores. Jim worries a little as he sees who his two competitors are. One of them, Charlene, has a reputation as the smartest girl in the class, and the other, Luis, is a student who, like Jim, has been winning consistently in the TGT tournaments. Could Jim come through for the Euclid Kids this week?

The TGT game consists of geometry items like the ones the students studied. Jim, Luis, and Charlene draw cards to see who goes first, and Jim wins. He picks the top card, which has the number "21" on it. He looks down his game sheet for item 21, which reads: "What is the circumference of a circle with a diameter of 3 centimeters?"

This question hadn't been on the worksheets he had studied with his team, but Jim thinks he understands circles pretty well. He scribbles some figures on a piece of paper and says "18.8 centimeters."

Now Luis, sitting on Jim's left, has the right to challenge. He does some figuring and then challenges. "I think it's 9.4 centimeters." Charlene checks the answer sheet. "Luis is right," she says, "it's 9.4 centimeters. Jim, I think you were thinking of radius instead of diameter." Luis keeps card number 21 to count as his point for a correct answer, and picks the next card to indicate the next question in the tournament. Play continues around the table all period. At the end,

Luis has the most cards and thus contributes six points to his team's score; Jim is next, and thus contributes four; and Charlene is third, and contributes two points to her team's score. When the period is over, Jim finds his teammates and tells them how he did. They're glad that he did so well against such tough competition. "I think we'll still be in the top three," one of his teammates says. "I won at my table and Susan won at hers. If we aren't in first place this week, we'll get 'em next week!"

As Jim is going home on the bus, he thinks about how much his feelings about school have changed since he began working in teams with other students. He recalls how much of a chore studying had been, and how he used to feel that he didn't know many of the other students very well. School had changed from a place where the other students didn't care if you came to school to one in which other students called you up if you were absent to see what had happened to you.

STUDENT TEAM LEARNING: THE RESEARCH EVIDENCE

Basic Skills

Student Teams-Achievement Divisions. STAD has been evaluated in six studies involving more than 2000 students in grades three through nine. In four studies, STAD was significantly more effective than traditional control methods in increasing learning of basic skills; in the other two, STAD and control were equally effective (See Slavin, 1978). In no case have STAD students learned less than control students. Interestingly, the effects of STAD have been like those of the Jigsaw technique (see below) in that its effects have been more dramatic for minority students than for whites. In one ten-week study, black students in a STAD class studying grammar and punctuation gained about 1.7 grade equivalents on

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a standardized language arts test. Whites in the STAD class also gained 1.7 grade equivalents. However, while whites in the control class gained 1.3 grade equivalents, blacks in the control class gained only 0.6. This means that although it was helpful for whites to be in the STAD class, it was extremely valuable for the blacks (Slavin, 1977b). This pattern was replicated in a second study (Slavin & Oickle, 1980).

Teams-Games-Tournaments. TGT has been evaluated in ten studies involving nearly 3000 students in schools across the country. In seven of the studies, TGT students learned significantly more than students in traditionally structured classes studying the same material. In the other three studies, TGT students learned only slightly more than the control students, but in no study have TGT students learned less. The effectiveness of TGT in increasing learning of basic skills has been demonstrated in grades three through nine, in subject areas ranging from mathematics to grammar to reading vocabulary, and in urban, suburban, and rural schools (See DeVries and Slavin, 1978).

Jigsaw. As of this writing, the effects of the Jigsaw technique on basic skills learning have been evaluated in only one study. In that study, black and Chicano students in the Jigsaw classes learned more than their counterparts in traditional classes, but white students did about the same in either treatment. However, the study took place for only two weeks; a longer study might show greater effects (Lucker, Rosenfield, Sikes, and Aronson, 1976).

Other studies have also shown positive effects of learning cooperatively on student achievement. In one study in which STAD, TGT, and a modification of Jigsaw were used together, there were significantly positive effects on language arts and reading achievement. Another

study in Israel demonstrated that when students worked in small groups on projects and were allowed to decide how to organize their own activities to produce group reports, they gained in conceptually complex skills but not in basic skills. This is in contrast to the more structured STAD and TGT methods, where the research shows the greatest gains for such basic skills as mathematics, language mechanics, and a reading vocabulary. Other researchers, such as Wheeler (1977) and Hamblin, Hathaway, and Wodarski (1971) have also found that when students work together to achieve a common goal, they learn more than they do in the traditional classroom.

It seems safe to say that Student Team Learning can have the effect that parents, school boards, and teachers are increasingly demanding: more learning of basic skills. In fact, in the case of TGT and STAD, the more the curriculum is oriented toward basic skills, the greater the learning.

Integrating the Desegregated Classrooms

One of the most important effects that Student Team Learning have is on friendships among students of different ethnic backgrounds in desegregated classes. Anyone who has spent much time in a desegregated secondary school knows that white students associate mostly with white students, black students associate mostly with black students, Hispanic with Hispanic, and so on. Seeing this is always a blow to those who hoped that widespread desegregation would lead to greatly increased contact, and thereby respect and liking, among students of different ethnic backgrounds. We should probably have been less surprised; in most desegregated schools, black, white, and Hispanic students come from separate neighborhoods, ride different busses, and often come from different elementary schools.

In several studies in which Student Team Learning was not used, beginning seventh graders in traditionally structured, racially mixed classes were asked to name their friends. When the question was repeated a semester later, the proportion of black students who named whites as their friends and whites who named blacks either stayed the same or actually decreased. Apparently, simply assigning black and white students to the same classes does not increase friendship across racial lines.

A Team Solution. Student Team Learning is an obvious solution to the problem of integrating the desegregated classroom. We know from decades of research that when people work together for a common goal, they gain in respect and liking for one another. When Student Team Learning techniques were applied in desegregated classrooms, that is exactly what was found. In three studies, TGT students increased the number of friends they named of a different ethnic group far more than did control students (DeVries, Edwards, and Slavin, 1978). Three additional studies (Slavin, 1977c; Slavin, 1979; Slavin and Oickle, 1980) found STAD to have the same effect. In fact, in many of these studies, the Student Team Learning students began to choose their classmates as friends as though ethnicity were not a barrier to friendship at all. This never happened in the control classes. Jigsaw (Gonzales, 1979) and techniques developed by David Johnson at the University of Minnesota (Cooper, Johnson, Johnson & Wilderson, in press) have achieved the same results.

John and Sue Ann: Teams in Action. An example will illustrate what can happen in a Student Team Learning class. This was a fifth grade class that was just starting to use STAD. The teacher was announcing assignments to teams. She read off the name of a black student, John,

and he took his place at a table that had been set up for team practice. John was one of the brightest students in the class. Then the teacher read off Sue Ann's name. Sue Ann was white, a poor student, and frequently absent. John was aghast and refused to work with her. Sue Ann refused to sit at the table with John. The teacher let Sue Ann sit away from the team until she was ready to join in, although her quiz scores still counted in the team score.

Two weeks later, things had changed. There were John and Sue Ann, chatting away about a lesson like old friends. The teacher was asked what had happened--there were two other students on the team, and John and Sue Ann could have worked with them. Why were they working together?

It turned out that John and Sue Ann were on a team that had a strong desire to win in the competition for team points. In particular, Sue Ann wanted to be mentioned in the newsletter so that she could impress her mother. After several days of working by herself, Sue Ann finally took the plunge--she asked John a question. Because John knew that the whole team had to do well, he answered her question and continued to explain some other things that he knew she didn't know. In a word, John and Sue Ann needed each other because they valued their team's success. That need led to the breakdown of a formidable set of barriers to friendship—black-white, male-female, and high achiever-low achiever. John and Sue Ann probably did not become best friends. But working on the team together made possible a level of contact and mutual good feeling that would have been quite unlikely otherwise.

Of course, not every team works perfectly, and in some cases long-standing friendship patterns are hard to break. However, because of the strength and consistency of the evidence, many who have been working with

cooperative learning methods in desegregated settings now frankly believe that any desegregated school that is not using these methods in some form is not doing all it can to improve relations between students of different ethnicities.

Mainstreaming

Ethnicity is a major barrier to friendship, but it is not as large as the one between physically or mentally handicapped children and their normal-progress peers. Public Law 94-142 has mandated that as many children as possible be placed in regular classrooms. This has created an unprecidented opportunity for handicapped children to take their place in the mainstream of society, but it has also created enormous practical problems for classroom teachers and often leads to social rejection of the handicapped children.

Once again, Student Team Learning is an answer. In the Student Team Learning classroom, mainstreamed students are assigned to teams the same way other students are. If these students are physically handicapped, their classmates come to value the contribution they make to the team, but more importantly they come to see them as individuals, important individuals not just as "crippled." If the mainstreamed students are mentally handicapped, the opportunity they have to contribute points to their teams if they show improvement (STAD and Jigsaw) or if they succeed in competition with others of similar levels of performance (TGT) also makes these students valued by their teammates. The teamwork makes them "one of the gang" instead of separate and odd, and provides them with teammates who encourage and assist their academic progress.

The research on Student Team Learning and mainstreaming has focused on the academically handicapped child. In one project, called the "Count

Me In" program, STAD was used to attempt to integrate students performing two years or more below the level of their peers into the social structure of the classroom. The use of STAD significantly reduced the degree to which the normal-progress students rejected their mainstreamed classmates, and increased the academic achievement and self-esteem of all students, mainstreamed as well as normal-progress (Madden and Slavin, 1980). Other research using cooperative teams has also whown significant improvements in relationships between mainstreamed academically handicapped students and their normal-progress peers (Ballard, Corman, Gottlieb, and Kaufman, 1977; Cooper, Johnson, Johnson, and Anderson, in press).

Perhaps the most important fact about Student Team Learning in the mainstreamed classroom is that these techniques are not just good for the handicapped children, they are good for all children. They offer the teacher a chance to incorporate the mainstreamed child into the classroom social system and meet the individual needs of these children while doing not just as well, but better with the non-mainstreamed children. A section in this manual under "Other Techniques" describes use of Student Team Learning in the mainstreamed classroom in more detail.

Liking of Others and Liking of Self

One of the most important aspects of a child's personality is his or her self-esteem. Many people have assumed that self-esteem is a relatively stable attribute of a person that schools have little ability to change. However, several of the researchers working on Student Team Learning techniques have found that teams do increase students' self-esteem. Students in Student Team Learning classes have been found to like themselves more than do students in traditional classes. These

improvements in self-esteem have been found for TGT (DeVries, Lucasee, & Shackman, 1979), for STAD (Madden & Slavin, 1980), for Jigsaw (Blaney, Stephan, Rosenfield, Aronson, & Sikes, 1977), and for the three methods combined (Slavin and Karweit, 1979). Why does this occur? First, it has been consistently found that TGT and STAD students report that they like others and feel liked by others more than control students do (Slavin, in press). Liking of others and feeling liked by others are obvious components of feeling worthwhile.

Second, it seems likely that students feel (and are) more successful in their school work when they work in teams. This could also lead to an increase in self-esteem. Whatever the reason, the effect of Student Team Learning on self-esteem may be particularly important for long-term effects on mental health. A student who has had a cooperative, mutually supportive experience in school may be less likely to be antisocial, withdrawn, or depressed in later life. We have only scratched the surface in understanding what kinds of long-term benefits for mental health might result from long-term experience of cooperative learning teams.

Other Outcomes

In addition to students' achievement, positive race relations, liking of others, and self-esteem, effects of Student Team Learning have been found on a variety of other important educational outcomes. Two of these are greater acceptance of mainstreamed students by their non-mainstreamed peers in regular classrooms (Madden and Slavin, 1980; Cooper, Johnson, Johnson, and Wilderson, in press), and increased positive interaction among emotionally disturbed adolescents (Slavin, 1977d). Others include liking of school, peer norms in favor of doing well academically, students' feeling that they have control over their

own fates in school, and student cooperativeness and altruism (see Slavin, in press). TGT (DeVries & Slavin, 1978) and STAD (Slavin, 1978b) have been found to have positive effects on students' time on-task, a variable that is coming to take on increasing importance as educators become more concerned about the productivity of schools. What is striking about the research on various team learning methods is the breadth of outcomes associated with them. One method might improve student achievement, another race relations, a third student self-esteem, but how many educational methods can claim to have documented so many disparate effects in well-controlled field experiments in schools? Positive effects on all variables measured are not found in every Student Team Learning study, but negative effects are almost never found, and the ratio of significantly positive to equal findings on the major variables (achievement, race relations, self-esteem) is about two-to-one (Slavin, 1980b; Slavin, in press).

Is Student Team Learning Practical?

Many of the educational innovations introduced in recent years have required enormous amounts of teacher training and/or money to actually implement. Fortunately, Student Team Learning techniques are quite simple. More than two thousand teachers located in every state have used TGT, STAD, or Jigsaw with nothing more than a one-day workshop and this manual and available curriculum materials. Many have used these methods with the manual alone. It is possible to obtain curriculum materials for TGT and STAD in most elementary and secondary subjects, distributed at cost by the Johns Hopkins Team Learning Project (see below for address), or it is easy for teachers to make their own materials. Student team learning methods have been used in grades one through college (although mostly in grades 2-9), in subjects ranging from math

to science to social studies to English to foreign language, and in every part of the United States and several foreign countries. They have been used for purposes ranging from improving basic skills for average students, for low-performing students, or fot gifted students, to improving race relations, to making mainstreaming more effective, to just getting students more excited about school. Not every teacher will feel comfortable using Student Team Learning, but most who do are enthusiastic about them, and many report dramatic differences in their own feelings about teaching.

Student Teams-Achievement Divisions and Teams-Games-Tournament are certified by the U.S. Department of Education's Joint Dissemination Review Panel (JDRP) for their effects on basic skills, and the entire Student Team Learning program is certified by the JDRP for effects on intergroup relations. This means that these programs are eligible for dissemination by the National Diffusion Network, which has a system of state facilitators in every state who help school districts adopt JDRP-approved programs.

To obtain information on training, curriculum materials, or film-strips, or to find the name of your state facilitator, write or call the Johns Hopkins Team Learning Project:

The Johns Hopkins Team Learning Project
Center for Social Organization of Schools
Johns Hopkins University
3505 North Charles Street
Baltimore, Maryland 21218
(301) 338-7569

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